2025

AgriFoodTech Investment Market *Opportunities & Threats*

The report assesses the market threats and opportunities for AgriFoodTech investment.
Reviewing the recent history of investment in this market and highlighting strengths and weaknesses learned from the past, making predictions and recommendations for future investment in the AgriFoodTech Market.

ROB WARD | 2025

About the Author

ROB WARD

With real, practical high-level experience from Farming to CPG Retail.

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Report Methodology & AgriFoodTech Sector Definitions

Report Methodology

This is an independent, in-depth research into the Global AgriFoodTech market through the lens of historical and potential investment. This is report is not to be taken as investment advice. Where data is taken from references, citations are made with a hyperlink marked with an Asterix *.

Sector Definitions

AgriTech – AgTech – AgriFoodTech – FarmTech – BioTech - FoodTech
There are multiple abbreviations for this industry.

AgriTech is widely adopted in the UK and Europe and tends to emphasise agricultural innovations, such as crop technology, vertical farming, and sustainable farming practices.
Seedtable & Barclays Eagle Labs

AgTech is more commonly used in the US, though it essentially refers to the same domain, focusing on technology that enhances agricultural productivity and efficiency.
Barclays Eagle Labs

AgriFoodTech is used when the scope includes food technology alongside agriculture, covering the entire supply chain from farm to table.
Beauhurst

FoodTech is where a technology is used to improve the production, distribution, and consumption of food, focusing on sustainability, efficiency, and innovation across areas like alternative proteins, food delivery and waste reduction.
Alexander Clifford

FarmTech, short for farm technology, refers to the application of technology and innovations in agriculture to enhance efficiency, productivity, and sustainability. It encompasses a broad range of tools, solutions, and advancements designed to solve agricultural challenges.
Agfunder

BioTech in an agricultural context is another sector within AgriTech, also known as Ag BioTechnology. Such as Synbio (Synthetic Biology) to GMOs, Bio-fertilisers, and Bio-control products.

Please note, separating data from some of these different definitions and related investment sectors is challenging, as various sources have different interpretations of their meaning and statistical aggregation.

Executive Summary

This report comprehensively analyses the AgriFoodTech investment landscape, providing insights into the sector's performance, challenges, and future opportunities. The AgriFoodTech sector, combining agricultural technology (AgTech or AgriTech) and food technology (FoodTech), has undergone substantial shifts over the past three years. Following the investment high of 2021, marked by record-breaking capital inflows, the sector faced a significant downturn, primarily due to macroeconomic pressures and shifts in investor priorities. This summary explores the major trends, sector-specific dynamics, risk factors, and strategic recommendations defining the AgriFoodTech market in 2024.

Market Overview: Growth, Correction, and Current Trends

2021 Peak Investment: AgriFoodTech experienced unprecedented growth in 2021, with global investments reaching $52 billion. This surge was driven by heightened interest in sustainable food solutions, alternative proteins, and digital agriculture, accelerated by the pandemic and the urgency for resilient food supply chains.

2022-2023 Market Correction: The following years saw a sharp 70% decline in AgriFoodTech funding, dropping to approximately $16 billion by 2023. The correction was driven by inflation, rising interest rates, and increased economic uncertainty, which led to stricter capital deployment and a re-evaluation of high-risk investments. Growth and late-stage valuation faced significant adjustments, particularly for capital-intensive projects.

2024 Recovery and Realignment: While the market remains cautious, a shift towards investments in profitable, sustainable technologies exists. The recovery in 2024 is characterised by more selective capital deployment, focusing on companies demonstrating operational efficiency, clear profitability pathways, and scalable innovations.

Sector-Specific Analysis: AgriFoodTech Key Areas of Investment

1. FarmTech

Bioenergy and Biomaterials: Investment in bio-based materials and bioenergy solutions has remained strong, as these technologies align with sustainability goals and circular economy principles. There is growing interest in biofuels, biodegradable materials, and sustainable packaging, particularly in Europe, where regulatory support is strong.

Precision Agriculture and Robotics: Automation and AI-driven farming solutions have become pivotal, with investment targeting technologies like robotics, drones, and AI-enabled crop monitoring. These tools aim to increase productivity and reduce resource usage, aligning with the need for climate-resilient agriculture.

Vertical and Controlled-Environment Agriculture (CEA): While vertical farming and CEA saw early enthusiasm, they face challenges due to high capital costs and operational complexities. Despite this, investments continue selectively, focusing on energy efficiency improvements and cost reductions.

2. FoodTech

Alternative Proteins: Although this segment was a major driver in 2021-2022, the market has matured, and investors are now focusing on established players with clear scalability and profitability. Lab-grown meat, plant-based, and insect-based proteins continue attracting interest, though new entrants face hurdles.

Food Waste Management and Circular Economy: Growing awareness of food waste's environmental impact has driven investment in waste reduction technologies and circular solutions. Innovations include smart packaging, food waste analytics, and upcycling to reduce food loss across the supply chain.

Food Delivery and Restaurant Automation: Fuelled by the pandemic, the food delivery sector saw rapid growth, particularly in automation and last-mile delivery technologies. Although investment has slowed, interest remains in robotics and AI-driven logistics to improve operational efficiency and meet consumer demands.

Geographic Insights: Regional Investment Patterns

United States: The U.S. maintains a leadership position, particularly in alternative proteins, digital agriculture, and precision farming technologies. American investors increasingly focus on early-stage startups with climate-positive impacts and clear technological differentiators. U.S. policy support, such as the Inflation Reduction Act, further incentivises investment in sustainable AgriFoodTech solutions.

Europe: Europe has emerged as a strong player, emphasising sustainability-focused AgriFoodTech. The U.K., Netherlands, and Germany lead the region in climate-focused farming and food waste management. European regulations favour environmentally friendly solutions, which have attracted substantial investment in bio-based technologies and emissions-reduction tools.

Asia & Oceania: China and Singapore have shown growth in lab-grown meat, vertical farming, and food safety technologies. Government support for food security and innovation in alternative proteins in Singapore has made it a hub for food-tech startups. China focuses on food safety and supply chain resilience, with recent investments in traceability and smart logistics. Australia and New Zealand are set to be new rising stars in this market with a focus on arable and horticulture.

Investment Stages, Valuation Trends, and Risk Profiles

Seed and Early-Stage Investments: Despite macroeconomic pressures, seed-stage funding remains active, particularly for startups innovating climate-resilient technologies, sustainable packaging, and AI-driven agriculture. Early-stage companies are more attractive to investors due to lower valuations and high innovation potential.

Growth-Stage and Late-Stage Investments: Growth-stage funding has tightened, with investors demanding profitability and clear exit strategies. Valuations have been recalibrated, especially in sectors like alternative proteins and digital farming, where scalability challenges persist. Late-stage companies face heightened scrutiny, with a focus on revenue generation and cash flow sustainability.

High-Risk Segments: The report identifies digital and precision agriculture, vertical farming, and certain alternative protein startups as high-risk due to capital intensity and lengthy commercialisation timelines. Many of these companies are restructuring or pursuing mergers to stay viable.

Strategic Insights and Recommendations for Investors

Operational Discipline: Investors are encouraged to focus on companies with solid operational fundamentals and a clear path to profitability. Early investment in technology-focused startups with realistic business models and disciplined cash management can yield higher returns.

Distressed Investments and Roll-Up Strategies: Given the market correction, distressed investment opportunities have emerged, particularly in high-capital sectors like vertical farming and alternative proteins. Investors can benefit from roll-up strategies, where smaller distressed companies are consolidated to create synergies and achieve scale.

Public-Private Partnerships: Collaboration with government entities, particularly in Europe and Asia, can help mitigate risks associated with high-capital AgriFoodTech ventures. Public funding initiatives, such as grants and tax incentives, can reduce initial costs and support scaling efforts for capital-intensive technologies.

Future Outlook: Growth Potential in a Cautious Market

Sustainability as a Core Driver: With climate change and food security concerns escalating, sustainability remains central to AgriFoodTech investments. Carbon capture, sustainable crop inputs, and climate-resilient crop varieties are gaining traction. Companies demonstrating environmental impact are better positioned to attract long-term investment.

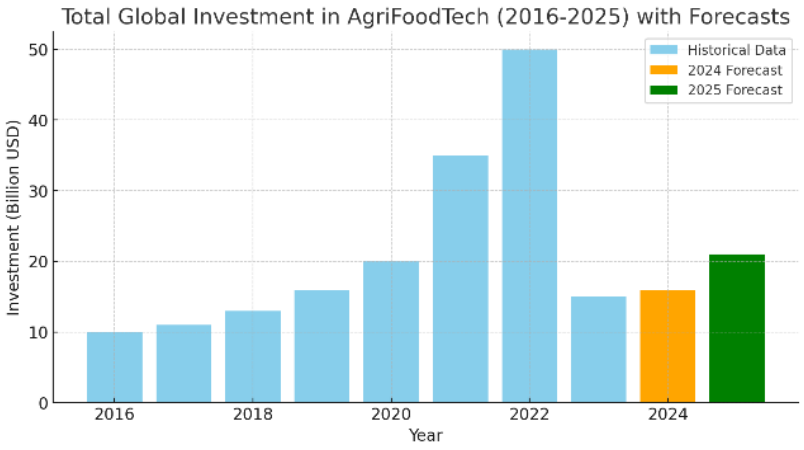
Technological Advancements: Innovations in AI, IoT, and automation are expected to drive AgriFoodTech further. AI-driven solutions for yield optimisation, soil health

monitoring, and predictive analytics are transforming traditional farming, making it more data-driven and efficient. These technologies will be critical for meeting global food demand sustainably.

Selective Recovery: While a total return to 2021's investment levels is unlikely, a selective recovery is anticipated. Investors will prioritise capital-efficient startups demonstrating clear ROI, scalable business models, and technological differentiators. Sectors aligned with sustainability, food security, and climate resilience will continue to attract funding.

Conclusion

The AgriFoodTech sector is at a pivotal moment, balancing significant market corrections with an urgent need for innovation to address global food security and environmental challenges. Investors will likely continue to adopt a disciplined approach, focusing on sectors and companies with clear paths to profitability, robust technological foundations, and strong environmental impact. With the renewed strategic focus, AgriFoodTech presents a valuable opportunity to create long-term, sustainable growth, especially when slipstreamed with Climate Tech and AI technology, addressing some of the world's most pressing challenges.



2021 Peak Investment $51b

2022-2024 Correction $16b

2025 Selective Recovery $21b

Market Overview: Growth, Correction, and Current Trends

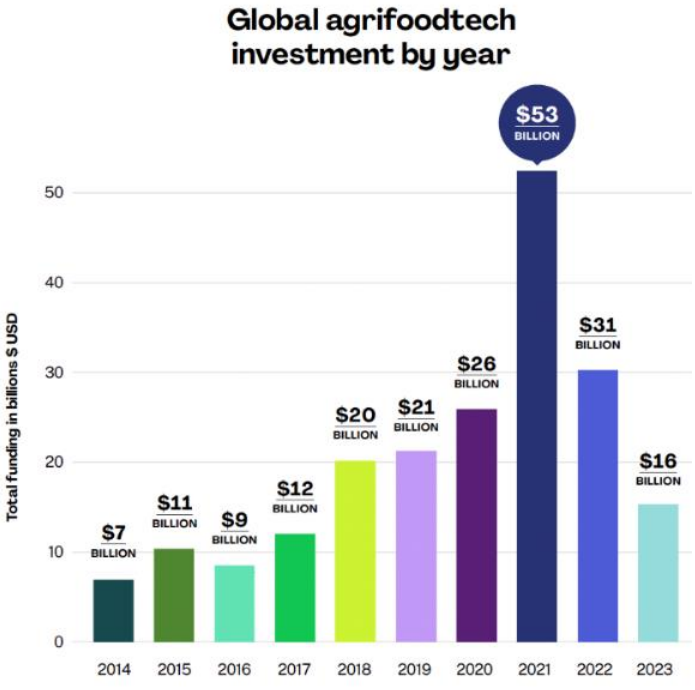
Global Investment Market for AgriFoodTech

Venture capital (VC) is the most common source of funding for AgriTech businesses, accounting for almost 80% of deals. Private equity and corporate/ M&A activity comprise around 9% and 12% of deals, respectively*.

2021 investment saw a record-breaking $51.7 billion in funding in AgriFoodTech (including FoodTech) businesses.

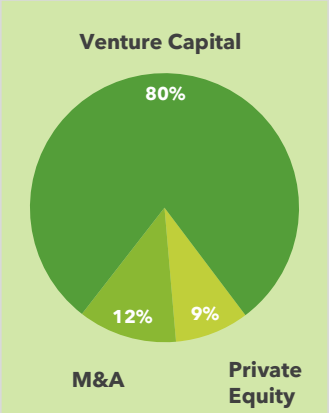
The entire tech industry experienced a negative year in 2022, and very significant corrections began and continued into 2024, and AgriFoodTech was no exception.

Globally, in 2023, AgriFoodTech startups raised $15.6 billion, down 49.2% from $30.5 billion in 2022 and 70% from the peak of $53 billion 2021.



Source: Agfunder

Agritech Sources of Funding



"2021 to 2023 AgriFoodTech investment fell by 70% from $52B to $16B..."

"Complex headwinds and reviving interest in Climate centric AgriTech investment..."

Macro-economic and socio-economic challenges

From 2022 to 2024, there has been a considerable impact of the acceleration of the world's macro-economic and socio-economic challenges. The complex mix of industry headwinds, including multiple military conflicts, soaring inflation, rising interest rates, food insecurity, and labour shortages, combined with growing nationalism against migration – revived interest in AgriFoodTech as a solution in 2024 and beyond; there is a continued focus on climate technology, AI-driven agricultural solutions, and sustainable food production. Though the total funding landscape has contracted, these specific sectors are expected to see robust investment as the AgriTech sector stabilises and adapts to long-term challenges*.

Agfunder report 2023* highlighted that many VC respondents commented on the growing recognition of AgriTech within the climate conversation, with some arguing that AgriTech investors will increasingly broaden their scope into climate. Conversely, general climate investors will focus more on AgriTech, suggesting a growing positive sentiment is accelerating amongst VC investors for this sector of AgriTech.

AgriFoodTech - split into FarmTech V FoodTech VC funding by category 2023 Vs '24 H1

Category Million $USD	H1 2023	H1 2024	Diff	Change	Sector
Ag Biotech	782	1700	918	**54%**	FarmTech
In-Store Retail & Restaurant Tech	856	1000	144	**14%**	FoodTech
Innovative Food	909	828	-81	**-10%**	FoodTech
Bioenergy & Biomaterials	1400	761	-639	**-84%**	FarmTech
Supply chain	534	759	225	**30%**	FoodTech
Online Restaurants & Meal Marketplaces	271	758	487	**64%**	FoodTech
eGrocery	887	694	-193	**-28%**	FoodTech
Ag Marketplaces & Fintech	330	513	183	**36%**	FarmTech
Farm Robotics, Mechanization & Equipment	505	398	-107	**-27%**	FarmTech
Farm Management Software & Sensing	536	365	-171	**-47%**	FarmTech
Novel Farming Systems	424	336	-88	**-26%**	FarmTech
Total	**7434**	**8112**	**678**	**9%**	

Source: Agfunder

AgriFoodTech investment levels have stabilised in 2024 and likely to match 2023.

Global market re-set and correction in valuations for AgriFoodTech

The overall correction in a range of AgriFoodTech startup valuations, which began in 2022, will continue throughout 2024, leading to more closures or consolidating companies and talent through roll-ups and acquisitions to market leaders in various categories.

A VC panel session at the September'24 World AgriTech conference claimed $40 billion had been written down in the AgriFoodTech industry since 2021.

Several companies could face a similar fate: in the McKinsey report, 'Seizing opportunities amid the AgriTech capital drought', they analysed 349 well-funded start-ups they have found that at least 30% of them, which are raising $10 billion to $15 billion in aggregate capital, are running behind on their fundraising targets and will likely need a capital injection. That is around 100 businesses each trying to raise $125 million.

"$40billion has been written off in AgriFoodTech since 2021..."

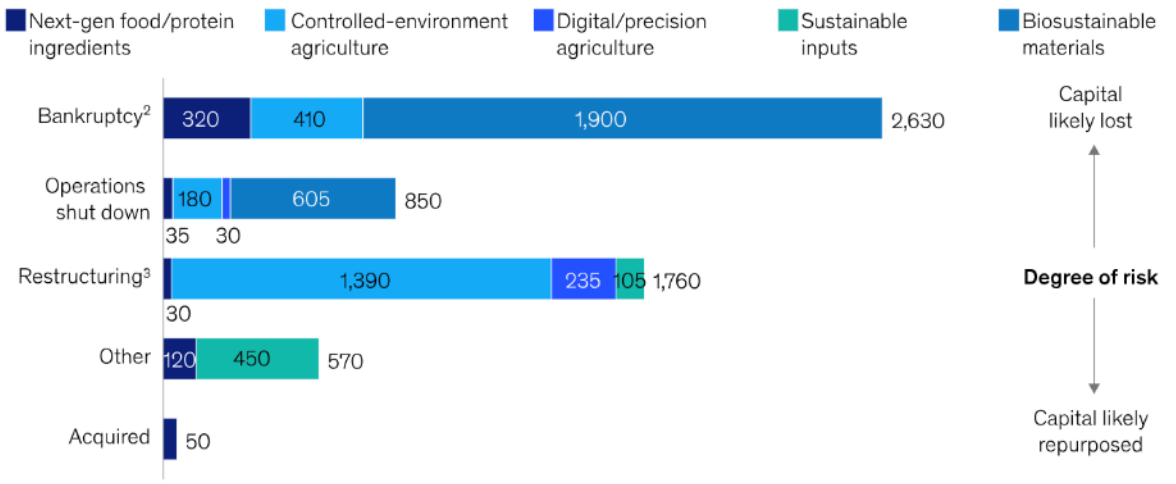
"$10 to 15 billion funding needed by 100 businesses..."

"Highest level of investment is needed for least popular sectors…"

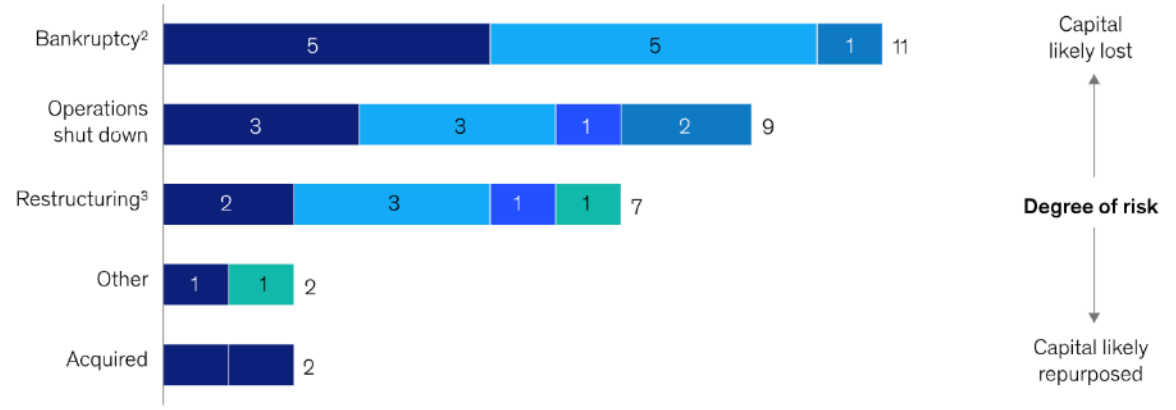
The hardest-hit sectors could be next-gen foods and alternative proteins, digital and precision agriculture, and Vertical Farming (VF). VF is a subsector within Controlled Environment Agriculture (CEA). Several start-ups in these subsectors have stretched their runways beyond initial expectations and now need urgent additional funding.

This starkly contrasts the optimism for the same sectors in 2021, reflecting the subsequent capital drought in 2023 and adding the macroeconomic inflationary expenses, increasing operational costs in 2023, resulting in these valuation corrections and business closures for these sectors in AgriTech likely to continue in 2024.

Capital invested by Start-ups across AgriFoodTech sectors and degree of risk to capital



Number of start-ups across sectors, and the degree of risk to capital,[1] (n = 31)

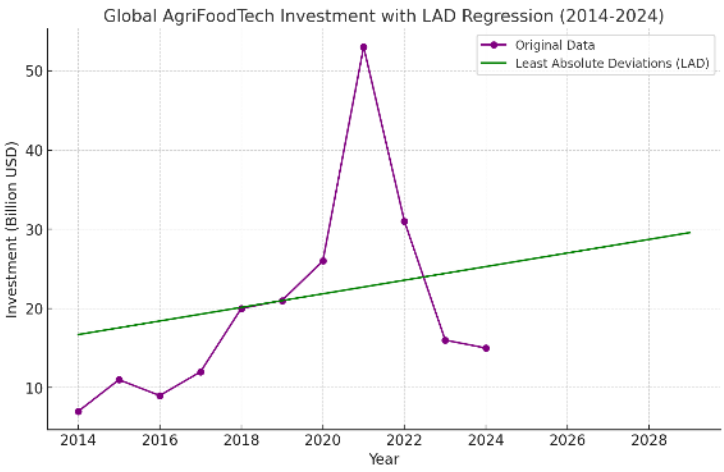


[1]Companies analyzed on an 18-month rolling basis.
[2]Amyris bankruptcy accounts for $1.9 billion.
[3]Includes companies that went private or went into receivership with layoffs as only end result of capital lost.
Source: McKinsey analysis

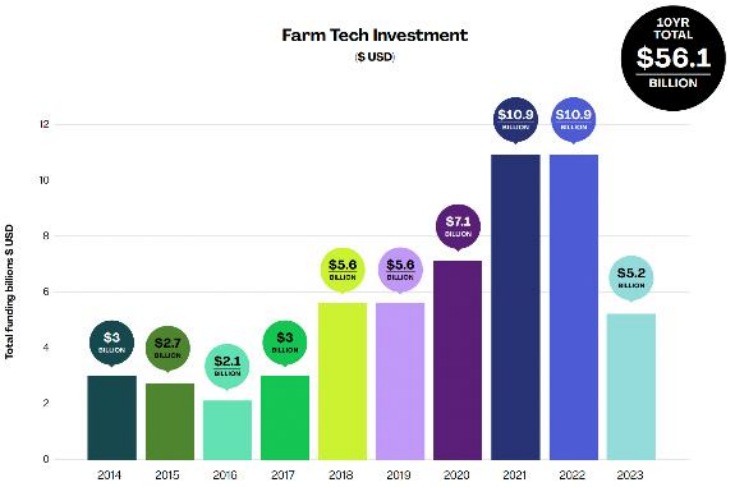
McKinsey & Company

What does the AgriFoodTech market look like with the correction?

The chart shows the original data and the least absolute deviations (LAD) regression line for Global AgriFoodTech Investment (2014-2024). The LAD model minimizes the absolute deviations from the predicted values, making it more robust to outliers compared to ordinary least squares regression. This helps provide a stable trend line through the data.



Distinguishing upstream AgriTech as FarmTech



Source: Agfunder

Opinion from McKinsey AgriTech Market*

"…despite current macroeconomic challenges, several tailwinds power the ***AgriTech market's long-term growth.*** *The agriculture industry benefits from* ***digitisation and adopting advanced technologies****, including robotics, biotech, and generative AI. Potential end users (farmers) also remain motivated (under pressure) to explore these new technologies, particularly as they become more affordable.*

At the same time, ***food security*** *is a top geopolitical priority. With the agriculture industry responsible for over a quarter of emissions, sustainability remains a major problem. Upstream, we see bigger farms planning to increase their use of* ***sustainable, digital, and precision AgriTech solutions."***

Sector-Specific Analysis: AgriFoodTech's Key Areas of Investment

This report highlights the sector differences in investment and how specific sectors received significantly higher and then closely followed by lower levels of investment. Adding to this, investment was made at a late growth stage, which made these investments distort the industry trend. Considering these outliers, the trend using Least Absolute Deviations statistical analysis shows a more likely trajectory for this investment market.

Sector Focus - analysis of FarmTech 2022 Vs 2023

Category: 2023	$USD Millions	Change to 2022
Ag Biotechnology	1900	-21%
Ag Marketplaces & Fintech	1000	0%
Farm Robotics, Mechanization & Equipment	**760**	**7%**
Farm Management Software, Sensing & IoT	716	-58%
Novel Farming Systems	680	-76%
Bioenergy & Biomaterials	**3000**	**269%**
Midstream Technologies	51	-68%
Farm-to-Consumer eGrocery	166	-64%

Source: Agfunder

"2022 to 2023 FarmTech two sectors had an increase in investment..."

Funding in 2023 to all categories declined except two:

1. Bioenergy and Biomaterials,
2. Farm Robotics, mechanisation and equipment.

Bioenergy & Biomaterials was the biggest category, bringing in $3 billion in 2023, up 20% from 2022.

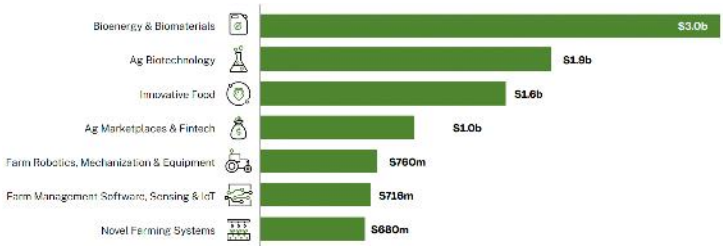
Investment in farm robotics, mechanisation and equipment continued its steady upward trajectory over the past five years, increasing 9% year-over-year to $760 million. Funding to upstream startups – those operating on the farm or in food production – accounted for 62% of overall dollar investment in 2023, compared with 51% in 2022 and 30% in 2021. 2023, for the first time, the geographic split in investment became more balanced between the USA, Europe and Asia. Historically, the USA would be around 40% to 50%. Africa's split, however, continues to be a very small proportion (1.7%) despite its obvious significance in landmass and population (18%).

The forecast for AgriFoodTech investment in 2024 indicates a continued challenging landscape with a maintained downward trend in venture capital funding for AgriTech businesses.

By the first half of 2024, the sector raised approximately $7 billion across 427 deals, marking a 12.5% decrease from the same period in 2023.

"Investment in 2024 is on course to be similar to 2023"

2023 Sector splits for Upstream investment in FarmTech



Source: Agfunder

2023 Investment* by sector for Upstream AgriTech/FarmTech

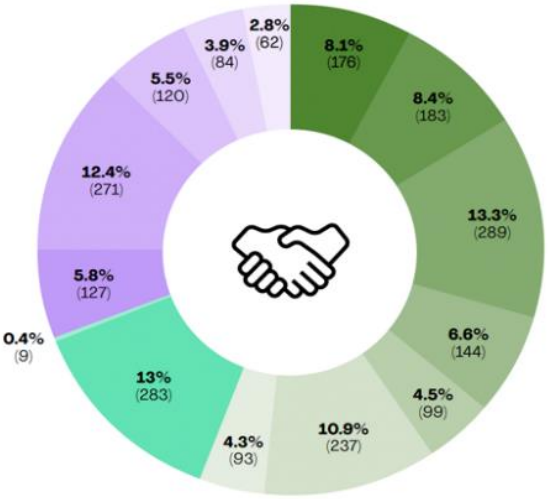
Globally FarmTech (specifically, on-farm AgriTech), has seen consistent growth up to 2022, until 2023 which saw a fall by 50%.

Categories by funding
($ USD)

Category	$ USD	Deals
Bioenergy & Biomaterials	3.0b	176
Ag Biotechnology	1.9b	183
Innovative Food	1.6b	289
Ag Marketplaces & Fintech	1.0b	144
Farm Robotics, Mechanization & Equipment	760m	99
Farm Management Software, Sensing & IoT	716m	237
Novel Farming Systems	680m	93
Midstream Technologies	1.1b	283
Miscellaneous	31m	9
eGrocery	1.9b	127
In-store Retail & Restaurant Tech	1.5b	271
Online Restaurants & Meal Marketplaces	828m	120
Cloud Retail Infrastructure	378m	84
Home & Cooking	256m	62

Upstream
Midstream
Downstream

Investment by deal count



Source: Agfunder

"FarmTech forecast to grow at a CAGR 15% 2024 to 2032 $57B"

The big shift in 2023 was a move towards categories such as **Bioenergy & Biomaterials (Footprint), and Ag Marketplaces & Fintech** (Indigo) and away from categories that attracted the heady days in 2021 and early 2022 by investing in eGrocers and Vertical farms.

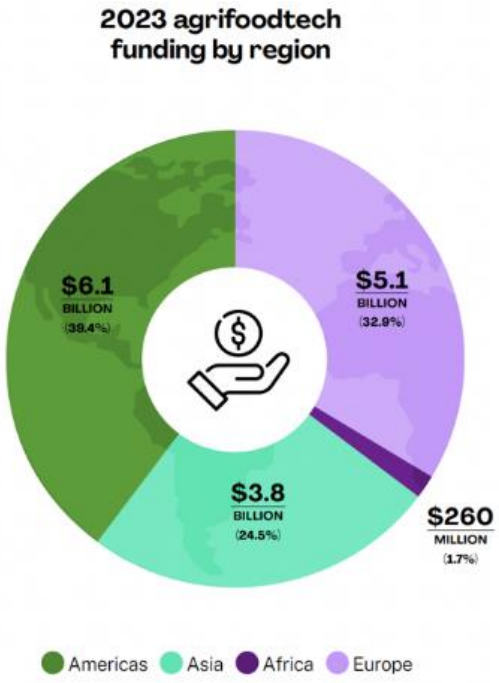
The market is predicted to bottom out in 2024, with a projected to grow at a CAGR of 15% between 2024 and 2032, reaching a value of around USD 56.6 billion by 2032*.

Geographic Insights: Regional Investment Patterns

"1st time in 2023 investment share between USA & Europe & Asia has similar proportions..."

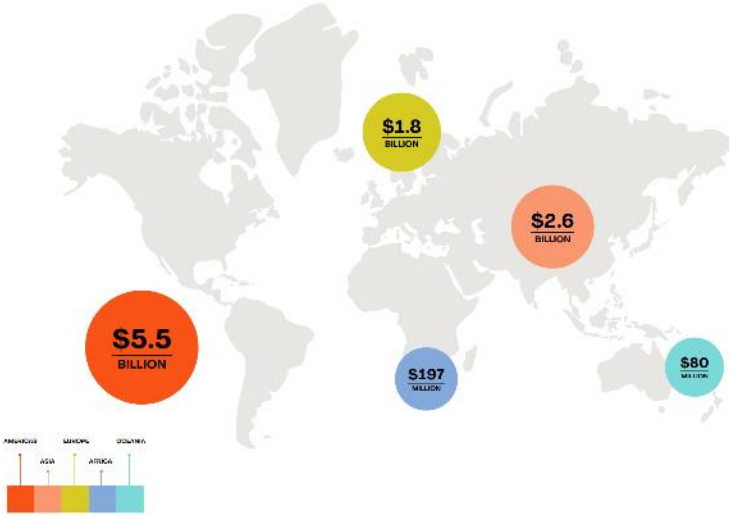
"USA continues to be the leader in Farmtech with a proportion of 55%..."

Although AgriTech investments have been traditionally dominated by the USA, for the first time in 2023, the investment share between USA & Europe & Asia gained similar proportions.



Source: Agfunder

Farm-Tech investment 2022/23 internationally is still dominated by the USA, with 55% of investment. UK and Europe 18%, which UK leads the European continent.



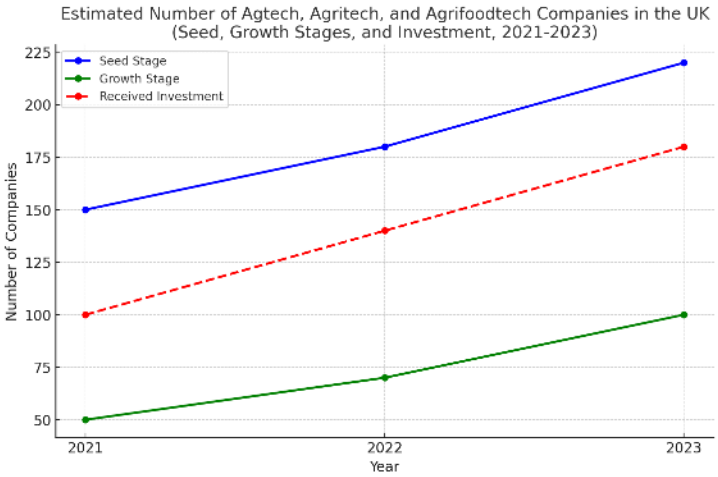
Source: Agfunder

The AgriFoodTech UK Market

In 2023 the number of AgriTech companies in the UK that are in the post-seed, pre-Series A investment stage is between 100 to 225.

A significant portion of early-stage AgriTech startups often face challenges progressing to later stages due to funding. While around 53% of UK AgriTech companies are at the seed stage, in 2023 around 75 advanced to Series >A funding.

The UK is a global leader in the whole AgriTech category and has seen a growing investment trend in the sector in recent years. In 2022, the UK invested the most in Europe, with about $1.4 billion, compared to the next largest, Germany's $458 million*.



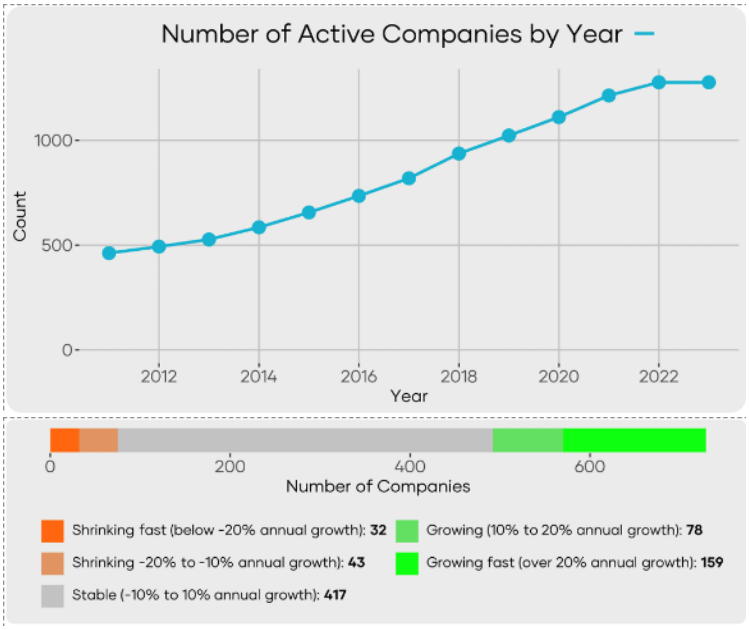
UK AgriTech total Market*, including Start-up and established companies

Vertical	Companies	Employees	Turnover	Dealroom Funding	Innovate UK Funding	Job Postings
AgSciences	469	18,995	£10.3bn	£340.8m	£178.8m	5,437
Remote Sensing	317	7,367	£2.9bn	£251.6m	£168.2m	2,368
Management Platforms	261	10,713	£2.5bn	£771.9m	£105.8m	2,573
Automation	210	3,263	£0.4bn	£322.5m	£124.8m	895
Drone Technology	175	417	£0.0bn	£5.0m	£4.3m	92
Precision Farming	117	4,260	£3.1bn	£2.0m	£58.1m	1,016
Vertical Farming	116	1,897	£0.4bn	£76.3m	£59.5m	638

"In 2023 there are an estimated 100 to 225 AgriTech UK Startups Post Seed, Pre-Series A growth stage..."

"UK is a global leader in the AgriTech category"

"The number of active AgriTech companies has grown over 100% in past decade"



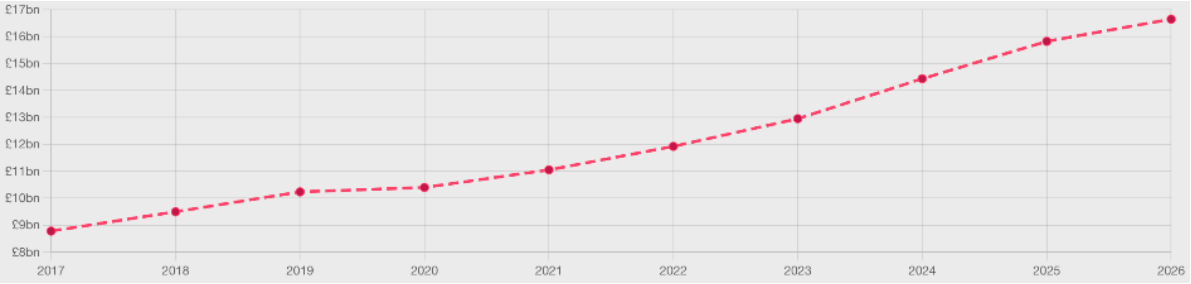
Taking a wider look at the AgriTech industry in the UK, which includes start-ups and established businesses in the AgriTech market:

This data reviewed AgriTech 1263 companies. These are companies developing and implementing new agricultural technologies, with an additional focus on Net Zero advancements in the field.

UK Total Industry AgriTech	**Total Companies**
Definition: Companies developing and implementing new agricultural technologies, with an additional focus on Net Zero advancements in the field.	**1263**
AgriTech: AgSciences Companies in the field of life sciences pushing for agricultural innovation by providing specialised products or services, like GMO seeds	**469**
AgriTech: Automation Companies producing machinery and/or technology that enable the automation of agricultural processes	**210**
AgriTech: Drone Technology Companies providing drone technology, or services reliant on drone technology, to the agricultural industry	**175**
AgriTech: Management Platforms Companies providing software and/or platforms that enable agricultural data management and analytics	**261**
AgriTech: Precision Farming Set of products and/or services that enable real-time and off-field monitoring and control of agricultural processes	**117**
AgriTech: Remote Sensing Companies providing products that make possible agricultural monitoring off-field	**317**

AgriTech: Vertical Farming Companies producing the technology and related services and infrastructure that enable vertical farming	**116**

These businesses have grown in value consistently.
The company valuations are forecast to be worth £16.6bn by 2026*.



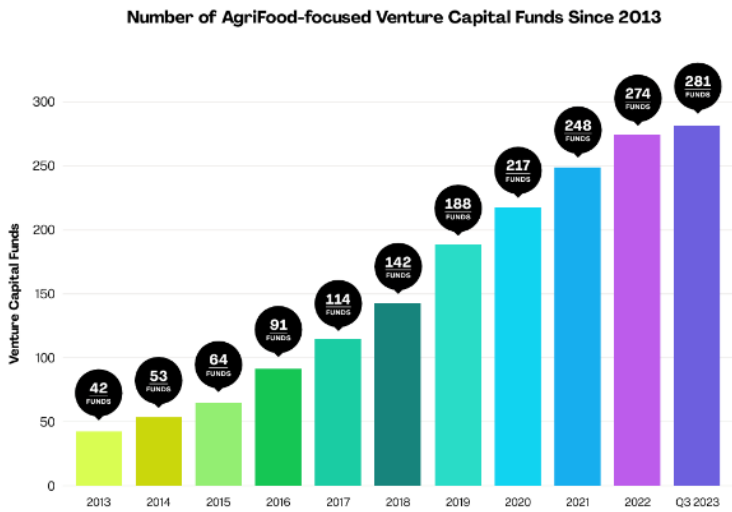
UK Vs Europe Focus

UK	Europe
Technology	
The UK's AgriTech sector emphasises **AI-driven precision agriculture, robotics, and sustainability solutions.** Technologies like drones, data analytics, and AI are being applied to make farming more efficient, reduce carbon emissions and increase yield. The UK is particularly strong in precision farming and smart farming applications.	Europe's AgriTech ecosystem is more diverse, with a strong emphasis on **vertical farming, greenhouse technology, and supply chain improvements**. Countries like the Netherlands are leading the charge in indoor farming technologies, while France and Germany focus heavily on biotechnologies and farm robotics. The European market has a broader focus on **sustainable and climate-resilient farming,** with many projects tied to EU-level sustainability goals.
Government Support and Policy	
The UK government has prioritised AgriTech in its innovation strategies, with initiatives like the **AgriTech Strategy (2013)** and ongoing investment in digital farming technologies. Government funding schemes such as **Innovate UK** and the **Transforming Food Production** and **Farming Innovation Programme** initiatives play a key role in fostering the UK's AgriTech ecosystem.	The European Union strongly focuses on supporting agricultural innovation through various funding programs, including the **Horizon 2020** and **Horizon Europe** initiatives. Countries like the Netherlands, Denmark, and Germany benefit from national policies that promote sustainability, organic farming, and climate resilience, often supported by substantial public funding.

Investment Stages and Valuation Trends

Global VC AgriTech landscape

2013 to 2023 saw a consistent increase in number of VC funds, with the top 50* funds completing 1033 investments. 'Growth' (Seed to Series A) stage deal size have trended positively over this decade:



Source: Agfunder

Investment Stages

Over the last five years, 2018-23, the total value of each investment stage has changed, showing the most significant decline is in Series +B. For the first time in recent years, 2023 Seed to Series A represented the largest (by a small margin) investment stage compared to the other stages.

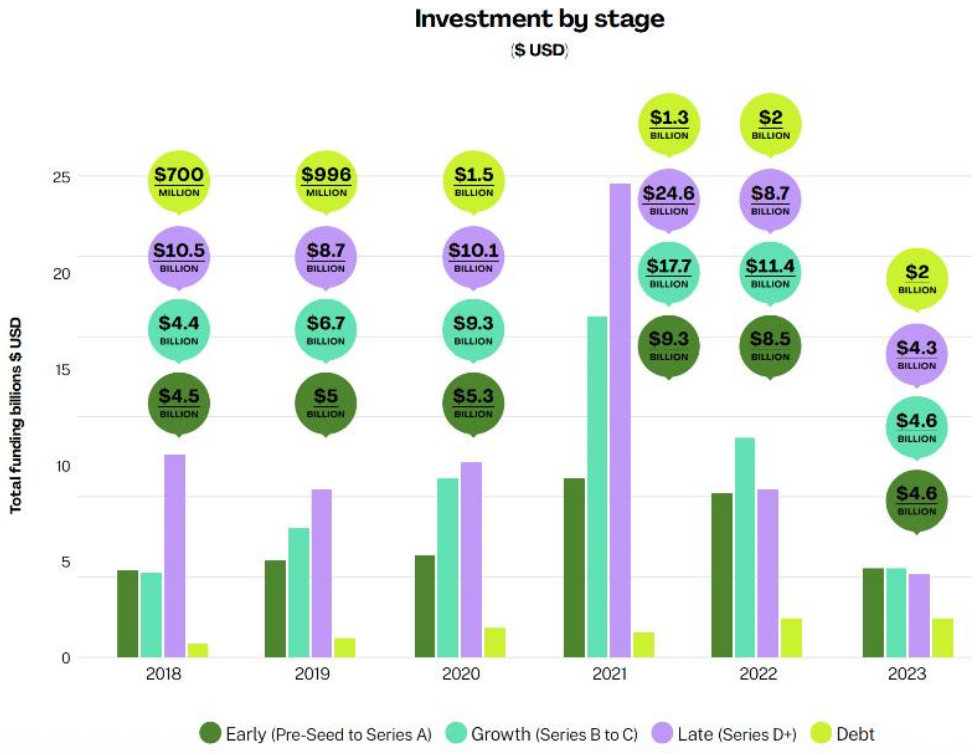
The market decline in total investment in AgriFoodTech is primarily due to lower late-stage investment rounds. The relative strength in early-stage investment in 2023 indicates confidence in emerging businesses, as it also shows the rapid abandonment of older AgriTech companies in this sector. The reasons for this abandonment and the sectors affected are explained in this report.

This graph highlights the contrast in median deal size to

"AgriTech VC Deal sizes have grown 5x over the past decade..."

"Greatest decline in investment is in late-growth stage companies while early growth stage have maintained momentum..."

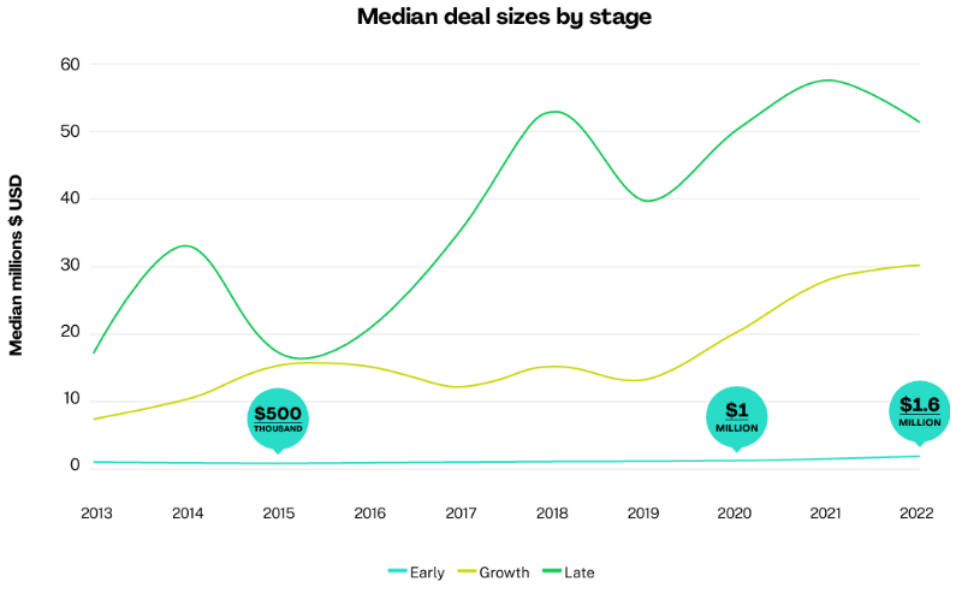
growth stage and the far greater volatility for the late growth stage deal size. Data for 2023 and 2024 is anticipated to show a significant fall in deal size for the +B investments.



Source: Agfunder

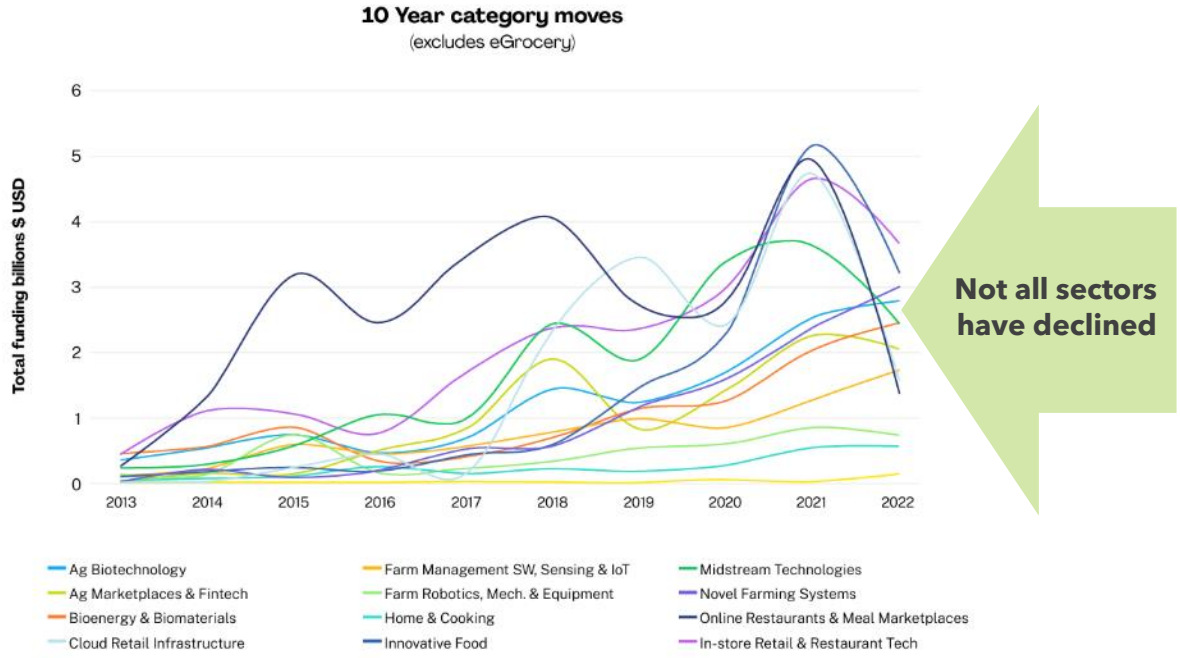
Median deal sizes by growth stage

Investment deals have spread across the AgriFoodTech industry during this decade, highlighted by significant changes in investment amounts by sector.



Source: Agfunder

This graph shows how there are significant differences between invested sectors:



Source: Agfunder

Key market drivers to invest in AgriTech

1. **Sustainable Food Global Demand:** As the world's population grows, the need for sustainable food production methods increases.
2. **Climate Resilience:** AgriTech solutions can improve crop resilience to climate change and create a positive environmental impact.
3. **Technological Disruption:** Breakthroughs in automation, bio-chemical alternatives, and AI data-driven farming are revolutionising the industry.

Top 5 key AgriTech market sectors

1. **Precision Agriculture:** Uses data and sensors to optimise planting, irrigation, and harvesting.
2. **Agricultural Robotics:** Automation and robotics for tasks such as planting, monitoring, and harvesting.
3. **Biotechnology:** Genomics, biotech innovations to enhance crop yields and pest resistance.
4. **Controlled Environment Agriculture:** Growing crops in controlled environments reduces resource use and increases efficiency.
5. **Alternative Proteins & Lab-Grown Foods:** Innovations in plant-based proteins, cultured meat, and alternative food sources

Examples of Business Exits for AgriFoodTech

Climate Field View
2013 OCT

EXIT VALUE	**$1.1 billion**
EXIT TYPE	M&A (Monsanto)
TOTAL VC FUNDING	$109 million

Iron Planet
2017 MAY

EXIT VALUE	**$776.5 million**
EXIT TYPE	M&A (Ritchie Bros.)
TOTAL VC FUNDING	$147 million

Arcadia Biosciences
2015 MAY

EXIT VALUE	**$532 million**
EXIT TYPE	IPO
TOTAL VC FUNDING	~$91 million

Blue River Technology
2017 SEP

EXIT VALUE	**$300 million**
EXIT TYPE	M&A (John Deere)
TOTAL VC FUNDING	~$31 million

Granular Business
2017 AUG

EXIT VALUE	**$305 million**
EXIT TYPE	M&A (DuPont)
TOTAL VC FUNDING	~$30 million

Zymergen
2021 APR

EXIT VALUE	**$3 billion**
EXIT TYPE	IPO
TOTAL VC FUNDING	$1 billion

Precision BioSciences
2019 MAR

EXIT VALUE	**$784 million**
EXIT TYPE	IPO
TOTAL VC FUNDING	~$200 million

App Harvest
2021 JAN

EXIT VALUE	**$1 billion**
EXIT TYPE	SPAC
TOTAL VC FUNDING	~$520 million

Caribou Biosciences
2021 JUL

EXIT VALUE	**$907 million**
EXIT TYPE	IPO
TOTAL VC FUNDING	~$170 million

Bear Flag Robotics
NA

EXIT VALUE	**$250 million**
EXIT TYPE	M&A (John Deere)
TOTAL VC FUNDING	~$12 million

Farmers Edge
2021 MAR

EXIT VALUE	**C$835 million**
EXIT TYPE	IPO
TOTAL VC FUNDING	~$100 million

App Harvest
2021 JAN

EXIT VALUE	**$1 billion**
EXIT TYPE	SPAC
TOTAL VC FUNDING	~$520 million

Jahez
2022 JAN

EXIT VALUE	**$2.3 billion**
EXIT TYPE	IPO
TOTAL VC FUNDING	~$40 million

Plant Labs
2021 DEC

EXIT VALUE	**$2.8 billion**
	AGROCLIMATIC RISK INTELLIGENCE SERVICES AND PRODUCTS
EXIT TYPE	SPAC
TOTAL VC FUNDING	$450 million+

Benson Hill
2021 SEP

EXIT VALUE	**$1.4 billion**
EXIT TYPE	SPAC
TOTAL VC FUNDING	~$290 million

Prospera Technologies
2021 MAY

EXIT VALUE	**$300 million**
EXIT TYPE	M&A (Valmont Industries)
TOTAL VC FUNDING	~$30 million

Risk Profiles and Strategic Insights for Investors

Focus on the AgriTech Investment Market

Sectors at Risk Focus

01

Sectors at Highest Risk

- **Digital/Precision Agriculture** has the highest exposure, especially in bankruptcy (1,900) and restructuring (1,390). This suggests high financial instability within this sector.
- **Vertical Farming – Controlled-Environment Agriculture** is also at significant risk, particularly in operations shutdown (605) and restructuring (450).

02

Capital Likely Lost vs. Repurposed

- Capital is most likely **lost** in cases of **bankruptcy and operations shutdown** across sectors. The high numbers in these categories, especially for Digital/Precision Agriculture, show this.
- Capital is more likely to be **repurposed** in cases of **restructuring and acquisition**, which tend to reflect lower immediate loss but indicate shifts in business models, mergers or change of ownership.

03

Sector Specific Risks

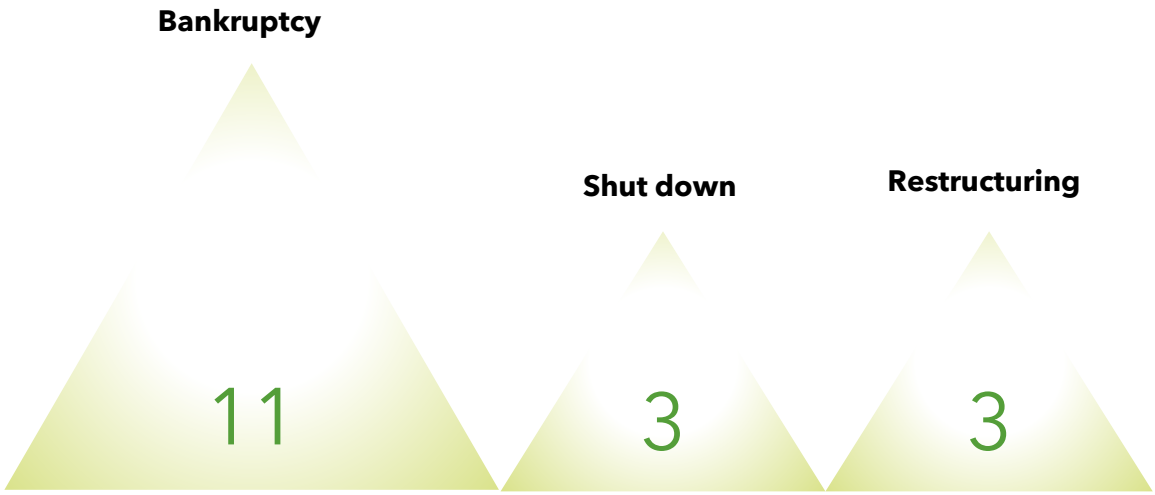
- **Next-Gen Food/Protein Ingredients and Sustainable Inputs** are also exposed but to a lesser extent than Digital/Precision Agriculture and Controlled-Environment Agriculture.
- **Biosustainable Materials** face relatively lower capital risk, with fewer entries in categories like bankruptcy or shutdown.

04

Risk Intensity

- The degree of risk varies, with **Digital/Precision Agriculture** displaying the highest degree across different types of risk. Followed by Vertical Farming (Controlled-Environment Agriculture).
- In the secondary chart, out of 31 analysed start-ups, 11 faced bankruptcy, with significant representation in **Digital/Precision Agriculture.** This indicates a challenging environment for these start-ups to sustain operations without financial loss ultimately, profitability.

Number of Start-Ups by Risk Level



Digital/precision agriculture and Controlled-environment agriculture each have 5 start-ups experiencing bankruptcy or severe financial distress. Across all sectors, 11 start-ups are in bankruptcy.

3 start-ups in **Digital/ precision agriculture** have completely shut down their operations, reflecting the broader trend of capital risk in this sector.

3 start-ups in **controlled environment agriculture** are undergoing restructuring, showing that capital is being shifted or reorganised to salvage value.

Risk Capital – Conclusions

HIGH RISK SECTORS	RISK OF CAPITAL LOSS	HIGH SECTOR VOLATILITY
Digital/precision agriculture and Controlled-environment agriculture	**Next-gen food/protein ingredients**	**Notable number of start-ups in bankruptcy or shut down**

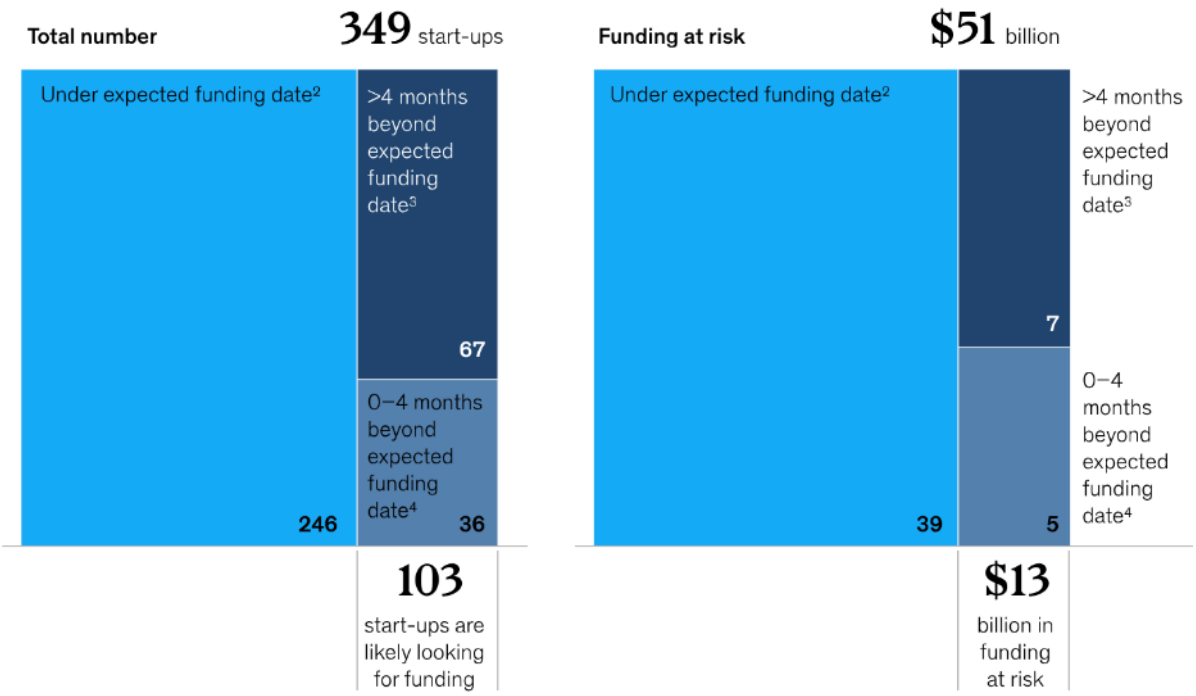
- Digital/precision agriculture and Controlled-environment agriculture are high-risk sectors with large amounts of capital at stake. Many companies in these sectors are struggling, with significant portions of their capital lost or undergoing restructuring.
- Next-gen food/protein ingredients also face a substantial risk of capital loss, but there are fewer start-ups undergoing complete shutdowns, indicating that this sector may have more potential for recovery.
- There is a notable number of start-ups in bankruptcy or shut down across the sectors, highlighting the risks and volatility in investing in AgriTech and sustainable food systems.

Overall, this analysis suggests that while AgriTech and sustainable sectors hold potential, a **significant portion of capital is at risk due to market dynamics, overinvestment, and operational challenges** in these emerging fields.

Startup Funding Risk Profiles

This graphic from McKinsey & Company highlights the status of AgriFoodTech Start-ups that are beyond their expected funding dates and the associated funding at risk.

AgriFoodTech Start-ups in scope that are beyond the expected funding date



[1]Including A+ and $30 million+ start-ups only.
[2]Start-ups categorized as having received funding in a time period less than the average duration to receive funding (calculating from June 30, 2023).
[3]Start-ups categorized as having received funding in a time period longer than 25% beyond the average duration to receive funding.
[4]Start-ups categorized as having received funding in a time period between the average duration to receive funding and longer than 25% beyond the average duration.

McKinsey & Company

Here's a breakdown of the data and key insights:

1. **Number of Start-ups Beyond Expected Funding Date:**
   - **349 start-ups** are included in the analysis.
   - **246 start-ups (70%)** are still under their expected funding date, meaning they are likely on track or in the normal range for receiving expected funding.
   - **103 start-ups (30%)** are beyond their expected funding date, meaning they are likely looking for additional funding or facing financial difficulties.
     - **67 start-ups (19%)** are **more than 4 months beyond** their expected funding date, which suggests a significant delay in securing funding. These start-ups are likely facing severe funding challenges.
     - **36 start-ups (10%)** are **0-4 months beyond** their expected funding date. These are likely at an early stage of funding delays and might still be able to recover if they can secure investment soon.

2. Funding at Risk:

- The total amount of **funding at risk** is **$13 billion** out of a total of **$51 billion** across these start-ups.
  - **$7 billion** of this at-risk funding is associated with start-ups that are **more than 4 months** beyond their expected funding date, indicating that a significant portion of capital is at high risk.
  - **$5 billion** is tied to start-ups that are **0-4 months** beyond their expected funding date, which might be recoverable if the companies can secure investment soon.
- **$39 billion** of funding is not currently considered at risk, as it belongs to the 246 start-ups still under their expected funding timelines.

Beyond the expected funding – Conclusion

TOTAL STARTUPS	FUNDING DELAYS	FUNDING AT RISK
349	30%	$13B

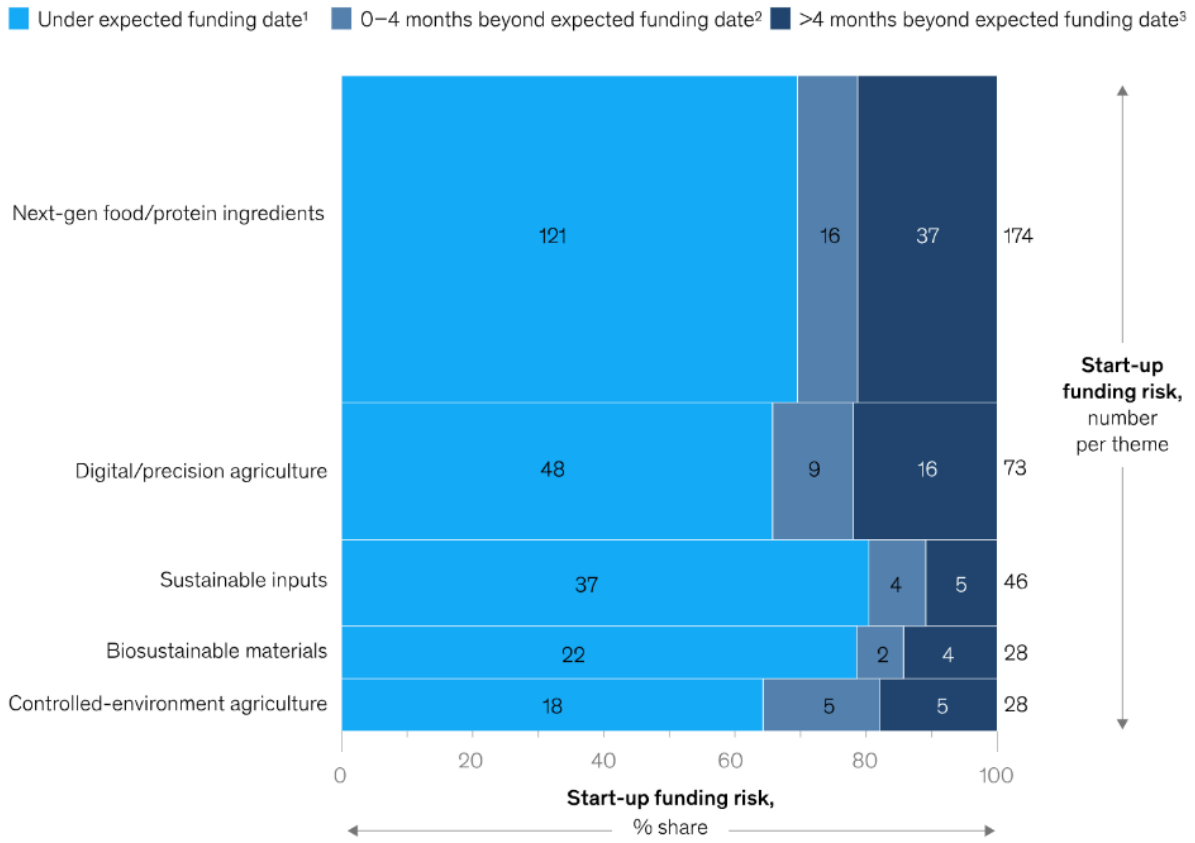
- A substantial portion of agriculture technology start-ups (30%) are facing funding delays, with $13 billion in funding at risk. The start-ups that are more than 4 months beyond their funding date are particularly at risk, representing $7 billion.
- While 70% of start-ups are on track, those facing delays could struggle to secure future investment or continue operations if funding gaps are not closed soon. This situation highlights the challenges in securing timely funding for AgriTech companies and the growing risk in this sector.

Strategic Insights

- **Investors and stakeholders need to focus on providing bridge funding or accelerating investment for the start-ups within the 0-4 month window to prevent them from falling into deeper funding distress.**
- **For the 67 start-ups that are over 4 months delayed, restructuring or alternative funding solutions may be necessary to prevent further losses in the sector.**
- **AgriTech remains a sector with potential, but it is currently facing significant risks in securing consistent capital, especially for newer or less established companies.**

Startup Category Risk Profiles

This chart analyses start-up funding risk by theme in the AgriFoodTech sector. It categorises start-ups based on the time since their last expected funding round, providing insights into the risk associated with each theme.



The chart divides companies into three categories:

1. **Under expected funding date (blue):** Companies that have received funding on or before the scheduled timeline.
2. **0–4 months beyond expected funding date (light grey):** Companies that are slightly behind their expected funding but may still secure funding soon.
3. **>4 months beyond expected funding date (dark grey):** Companies that are significantly behind in their funding rounds are at higher risk of financial distress.

Key Findings by Theme

Sector	Expected date	0-4 months beyond	>4 months beyond	Total	Risk Insight
Next-gen food/protein ingredients	121	16	37	174	Despite the large number of companies under this category, a substantial number are at high risk due to delayed funding (53 start-ups). This indicates a growing concern in the next-gen food/protein ingredients space.
Digital/ Precision Agriculture	48	9	16	73	While the majority of start-ups are on track, around **34%** are facing delayed funding. Precision agriculture is an essential area for farm tech innovation, but there is clear funding risk for many companies.
Sustainable Inputs	36	6	4	46	This sector appears relatively stable, with a smaller number of start-ups facing critical funding delays compared to others. However, **10 start-ups** are facing potential risks due to delayed funding, which could impact innovation in sustainable farming technologies.
Biosustainable Material	21	2	4	28	While most of the companies are on track with funding, around **21%** are at risk due to delays, particularly the 4 start-ups with more than 4 months of funding delay.
Controlled Environment Agriculture	18	6	4	28	Although the number of companies in this theme is smaller, funding risk is evident, with **35%** of the start-ups experiencing delays. This sector requires continuous investment due to the high costs associated with controlled-environment farming.

Startup Category Risk – Conclusion

HIGHEST FUNDING DELAYS	LOWER AT-RISK	HIGHER RELATIVE RISK
Next-gen food/protein ingredients & Digital/ precision agriculture	**Sustainable inputs & Biosustainable materials**	**Controlled-environment agriculture**

- Next-gen food/protein ingredients and Digital/precision agriculture have the highest number of start-ups facing funding delays. These are critical areas for innovation, but they are also highly dependent on continuous capital infusion, which is becoming a challenge for a significant number of start-ups.
- Sustainable inputs and Biosustainable materials have a relatively lower proportion of at-risk companies, indicating that these sectors may be more stable or less capital-intensive compared to next-gen food or precision agriculture.
- Controlled-environment agriculture shows higher relative risk compared to its total number of companies. Given the infrastructure and operational costs involved in this sector, this suggests that investment might not be keeping pace with the financial needs of these start-ups.

Strategic Insights

- **Investors need to focus on bridging the funding gaps for the start-ups facing delays, particularly those in next-gen food/protein ingredients and digital agriculture. These are crucial areas for the future of AgriTech, but innovation may slow down significantly without adequate capital.**
- **Early intervention for the start-ups in the 0-4 months delay category could prevent these companies from slipping into more profound funding distress.**
- **Diversification of funding sources: Start-ups may need to diversify their funding sources (e.g., public-private partnerships, venture debt, or government grants) to mitigate risks in a volatile market.**

Focus on the FoodTech Investment Market

The FoodTech investment market has seen significant fluctuations over the past five years, with periods of strong growth and dramatic slowdowns.

FoodTech startup investments have declined sharply, with a 70% drop in 2022 compared to the peak year of 2021, when €35 billion was raised globally. The market has become more challenging due to higher interest rates and concerns about business viability. Although IPOs and acquisitions have decreased, investors still seek startups focused on sustainability, environmental impact, and health benefits, particularly those addressing sugar reduction and protein enhancement. However, taste, price, and strong business fundamentals remain essential for attracting cautious investors.

FoodTech Investment Challenges

Despite inflation and economic challenges, FoodTech demand remains strong, especially in food services technologies, though investors now prioritise profitability and sustainable growth, with a significant shift to a buyer's market.

Source: Dealroom.co

Key Insights

01

Economic Shifts

- Global inflation has reduced considerably compared to last year, easing some pressures on the industry.
- Consumers remain resilient despite the cost-of-living pressure - supported by factors like low unemployment, resulting in an overall sentiment of cautious optimism.

02

Investment Environment

- Start-ups are finding capital is far more challenging to secure, with an emphasis on profitability. Investors encourage startups to adapt to a more challenging funding environment, focusing on operational efficiency and long-term growth.
- Some investors still hold significant capital and are looking for suitable opportunities, though they seek resilient, well-prepared startups.

03

Sustainability Focus

- Sustainability is a growing priority, especially as large food companies commit to reducing emissions. Many are partnering with startups to innovate in this area.
- Regulatory considerations, particularly around carbon and new tech acceptance in Europe, are crucial as companies navigate sustainability goals.

Investors see potential in FoodTech but emphasise strategic resilience, sustainability, and adaptation to stricter investment conditions.

Overall Investment Growth and Trends

The following is an overview of the trends observed, particularly focusing on the critical areas of investment, growth areas, and market drivers:

- **Peak Investment Period:** The 2021 year was a record high for FoodTech investments globally. Fuelled by rising interest in sustainability, health-conscious products, and plant-based foods, FoodTech companies saw significant venture capital (VC) funding inflows.

- **2022 Market Correction:** While 2021 was a banner year, 2022 saw a pullback in funding. Factors like economic uncertainty, inflation, and tightening VC funding led to fewer deals and smaller investment rounds, especially at later stages.

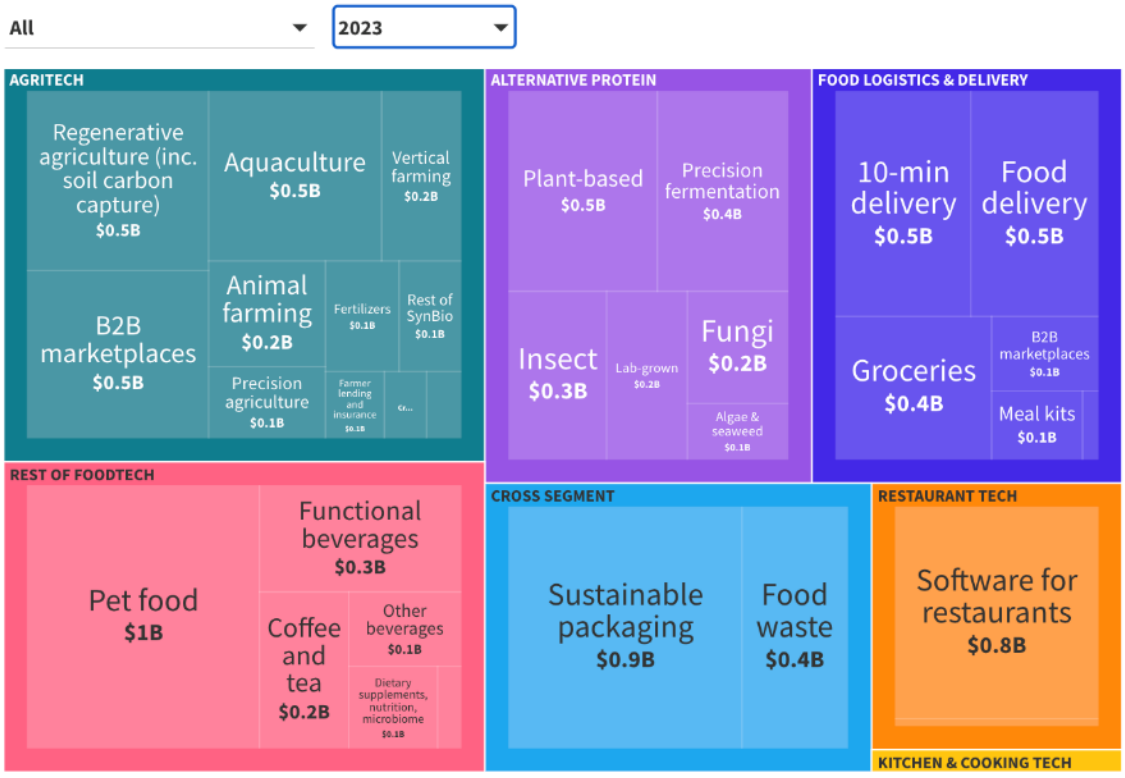
- **2023-2024 Recovery:** Recent years have seen more focused investment, particularly in areas tied to resilience (like food supply chain tech) and sustainability, as investors have become more selective about profitability and scalability.

Contrasting changes in Global investment for 2021 V's 2023

2021 Total Investment

Source: Dealroom.co

2023 Total Investment



Source: Dealroom.co

Conclusions and Insights

1. Key Areas of Investment in FoodTech

ALTERNATIVE PROTEINS	FOOD DELIVERY & RESTAURANT	FOOD WASTE MANAGEMENT	AGRICULTURE TECHNOLOGY
Plant based, lab-grown, insects	**Delivery models & automation**	**Sustainability & climate impact**	**Precision farming, crop monitoring, soil health**

- **Alternative Proteins:** Plant-based, lab-grown, and insect protein sectors have attracted substantial capital, especially during 2019–2021. Although growth in this segment has slowed in terms of new entrants, established players still receive significant investment.
- **Food Delivery and Restaurant Tech:** Fuelled by the COVID-19 pandemic, this sector saw rapid investment, particularly in 2020 and 2021. Although investment has slowed, innovations in delivery models and automation technologies continue to attract VC interest as the consumer demand is growing CAGR 9% 2024 – 2029* and meal home delivery is 27% penetration in 2024*. Total market from 2019 – 2029 is on track to grow 500% to $1.86T.
- **Food Waste Management:** Increasing sustainability awareness and climate impact has led to more capital flowing into food waste reduction technologies and circular economy initiatives.
- **Agriculture Technology (AgTech):** This has been one of the more consistent sectors for investment over the last five years, with focus areas in precision farming, crop monitoring, and soil health.

2. Notable Investor Participation

CORPORATE VENTURES	SPECIALISED FUNDS	MAJOR VCs
Partnering with startups	**Focus on sustainable tech**	**Investing less and more selectively**

- **Corporate Venture Capital:** Large food companies (e.g., Nestlé, Unilever) have entered the space actively, seeking partnerships or acquisitions with FoodTech startups. These partnerships help corporations innovate and respond faster to market trends.
- **Dedicated FoodTech Funds:** Investors like Blue Horizon, S2G Ventures, and AgFunder have consistently invested in the FoodTech space, focusing on sustainability and climate-positive solutions.

- **Generalist VCs with Dedicated FoodTech Interest:** Larger VC firms such as Sequoia, SoftBank, and Andreessen Horowitz have periodically invested in high-potential FoodTech firms, particularly in areas where technology and food intersect.

3. Investment Stages and Valuation Trends

SEED AND EARLY STAGE	GROWTH STAGE	M&A
Plant-based, precision fermentation, sustainable food packaging	**Alternative protein**	**established food corporations acquiring tech-forward startups**

- **Seed and Early Stage:** Despite economic slowdowns, seed-stage funding in FoodTech remains active, with investors looking for innovations in plant-based, precision fermentation, and sustainable food packaging.
- **Growth Stage:** Growth and Series C+ rounds have faced more scrutiny, with valuations seeing adjustments as investors focus on companies with a clearer path to profitability. This is especially true for companies in alternative protein sectors that scaled quickly during 2019-2021.
- **Mergers and Acquisitions (M&A):** As the sector matures, M&A has become a notable exit strategy, with established food corporations acquiring tech-forward startups to integrate innovative technologies.

4. Investment Stages and Valuation Trends

UNITED STATES	EUROPE	ASIA
Largest hub, especially for alternative proteins	**Strong in climate-focused FoodTech**	**Growing interest in lab-grown meat**

- **United States:** The US remains the largest FoodTech investment hub, especially for alternative proteins, food delivery, and agtech.
- **Europe**: European investment has grown, with solid support for alternative protein and climate-focused FoodTech. The UK, Netherlands, and Germany have been particularly active.
- **Asia**: Asia, especially Singapore and China, has seen notable investment growth, particularly in lab-grown meat and food safety technology.

Future Outlook: Growth Potential in a Cautious Market

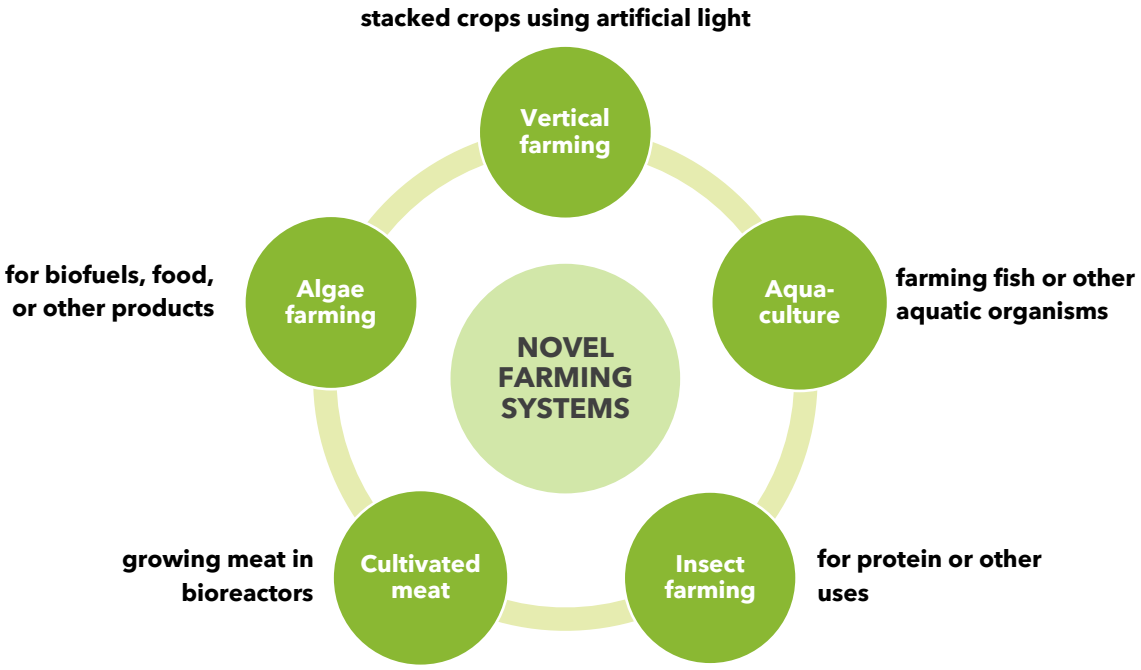
Understanding the difference between Novel farming systems & vertical farming

They are related concepts but are not the same.

Vertical Farming is a subset of novel farming systems. It specifically refers to growing crops in stacked layers indoors without natural light, using broader horticultural-protected growing systems from controlled-environment agriculture (CEA) techniques like hydroponics, aeroponics, or aquaponics. Vertical farms are usually located in urban areas or industrial buildings and aim to reduce land use, water consumption, and transportation costs while enabling year-round production.

Novel Farming Systems, on the other hand, is a broader term that includes any innovative method of farming that departs from traditional field-based agriculture. These systems aim to optimise resource use, increase efficiency, and often integrate technology.

"Vertical Farming is a subsector of Novel Farming..."



Related Industries that could affect the AgriFoodTech investment market

1. FinTech

Global venture capital investments into the fintech sector more than doubled in 2021. In that year, more than $120 billion was invested by VC firms, up from only $45.7 billion in the previous year. In 2022, investments into fintech dropped notably but still remained well above the investment volume of 2020. The downward trend continued in 2023, when the value of investments dropped to $46.3 billion*.

"Fintech Growth Areas in 2024: digital payments, ESG-focused fintech solutions, AI..."

Growth areas in 2024 are expected to include digital payments, ESG-focused fintech solutions, and applications of AI in financial services, as investors look to harness AI for automation and cybersecurity. Emerging markets, especially in Asia, are also poised to attract more VC interest as they expand digital payments and infrastructure-focused fintech solutions

With continued interest in innovation using AI, the fintech sector is forecasted to stabilise through 2024, with projections showing further growth as new technologies and profitable business models become a priority.

2. Artificial Intelligence (AI)

The global investment market for AI has experienced both growth and some decline over the last three years, reflecting shifts in focus and market dynamics.

- **2021 Peak:** AI investments saw a record high in 2021, reaching approximately $93.5 billion. This surge was primarily driven by increased adoption in sectors like health, data processing, and finance, as companies sought to leverage AI capabilities broadly.
- **2022 Decline:** Investment dropped by about 27% to $91.9 billion in 2022, as macroeconomic challenges and investor caution led to fewer deals. However, while overall funding declined, generative AI attracted attention, showing resilience as one of the most funded segments during this period.
- **2023 Recovery and Focus on Generative AI:** In 2023, while private AI investment was still below 2021 levels, generative AI experienced substantial growth, attracting $25.2 billion. This segment represented a significant portion of AI-related private investments, driven by the rapid advancements and popularity of applications like ChatGPT. Meanwhile, the U.S. maintained its leadership, comprising a large share of global AI investments, outpacing other countries significantly.

These trends highlight an evolving investment landscape with a marked focus on generative AI, even as the market adjusts to new economic conditions and investor priorities. As AI technologies advance, the emphasis is increasingly on scalable, profitable applications across industries such as healthcare, finance, and infrastructure.

In 2024, global venture capital investment in AI is expected to remain substantial, with a particular focus on generative AI (GenAI) and vertical AI applications. Early projections indicate that GenAI alone could attract around $12 billion by year-end, driven by its rapid adoption and applications across industries like healthcare, education, and finance. In total, AI

"Generative AI has experienced substantial growth even in 2023 ..."

"US is the leader in global AI investments ..."

investment is projected to approach $100 billion globally, reflecting its dominant position in the venture capital market.

Generative AI, in particular, continues to be a major focus due to significant advancements in large language models (LLMs) and other generative technologies. In early 2024, GenAI accounted for a growing share of AI venture capital deals, with investors increasingly concentrating on specialised, industry-specific applications rather than general-purpose models. This focus is in response to rising demand for tailored AI solutions that address specific business needs and add direct value to operations.

"GenAI continues to be a major focus in 2024 with advancements in LLMs …"

This growth in AI investment demonstrates an optimistic yet cautious approach from venture capitalists, who are now more selective, prioritising companies that show clear paths to revenue and scalability potential across sectors.

3. Climate Tech

Over the past three years, the global climate tech investment market has shown resilience and strong growth, despite economic challenges.

- **2021:** Climate tech investments saw considerable growth and expansion with total funding reaching

approximately $69 billion, driven largely by increased awareness of climate change and commitments to net-zero goals across sectors like energy, transportation, and carbon capture.

- **2022:** Climate tech investment reached a record $82 billion, marking a 20% increase from 2021. This growth was particularly strong in Europe, where investments surged by 33% compared to a 7% increase in the U.S. Sectors like renewable energy and transport saw the highest funding, with significant deals in areas like hydrogen technology and electric vehicles. The U.S. led in overall funding, but European growth was bolstered by policies aiming for energy independence and decarbonization.
- **2023:** Although economic headwinds led to a broader decline in venture funding, climate tech remained relatively stable, experiencing only modest decreases. The global focus shifted slightly toward more sustainable energy infrastructure, grid storage, and decarbonization technologies. Government policies, such as the U.S. Inflation Reduction Act, allocated substantial funds ($369 billion) to support climate initiatives, reinforcing investor confidence in the sector's long-term viability.

"ClimateTech investments peaked in 2022 while remaining relatively stable in 2023 ..."

Overall, climate tech funding continues to attract significant capital, emphasising sectors that address immediate emission reductions and energy transitions.

"ClimateTech investments forecasted to exceed $40B in 2024 ..."

The sector is likely to see continued growth, particularly in areas with government support and regulatory backing for sustainable innovations.

In 2024, global venture capital investment in climate tech is expected to continue growing, with projections indicating an increase from previous years as regulatory pressures, technological advancements, and demand for emissions-reducing solutions drive funding. This year, climate tech investments are forecasted to concentrate on mature technologies and applications with near-term decarbonisation potential, such as carbon capture, renewable energy, and emission-tracking solutions. Early estimates suggest that climate tech investments will exceed $40 billion, despite a recent trend of lower deal volumes across the tech sector.

"Governments and corporations are setting sustainability goals favoring ClimateTech funding ..."

A notable trend for 2024 is the diversification of investment targets within climate tech, moving beyond high-emission sectors like transportation to underfunded areas such as carbon measurement, reporting, and verification (MRV) solutions, which are crucial for companies navigating stricter ESG standards. Another growth area is methane reduction technologies, particularly in agriculture and energy, where regulatory changes in the U.S. and EU are expected to catalyse further investment.

Additionally, emerging markets are receiving heightened focus, supported by newly launched funds to accelerate the energy transition in developing regions, which could further expand the global climate

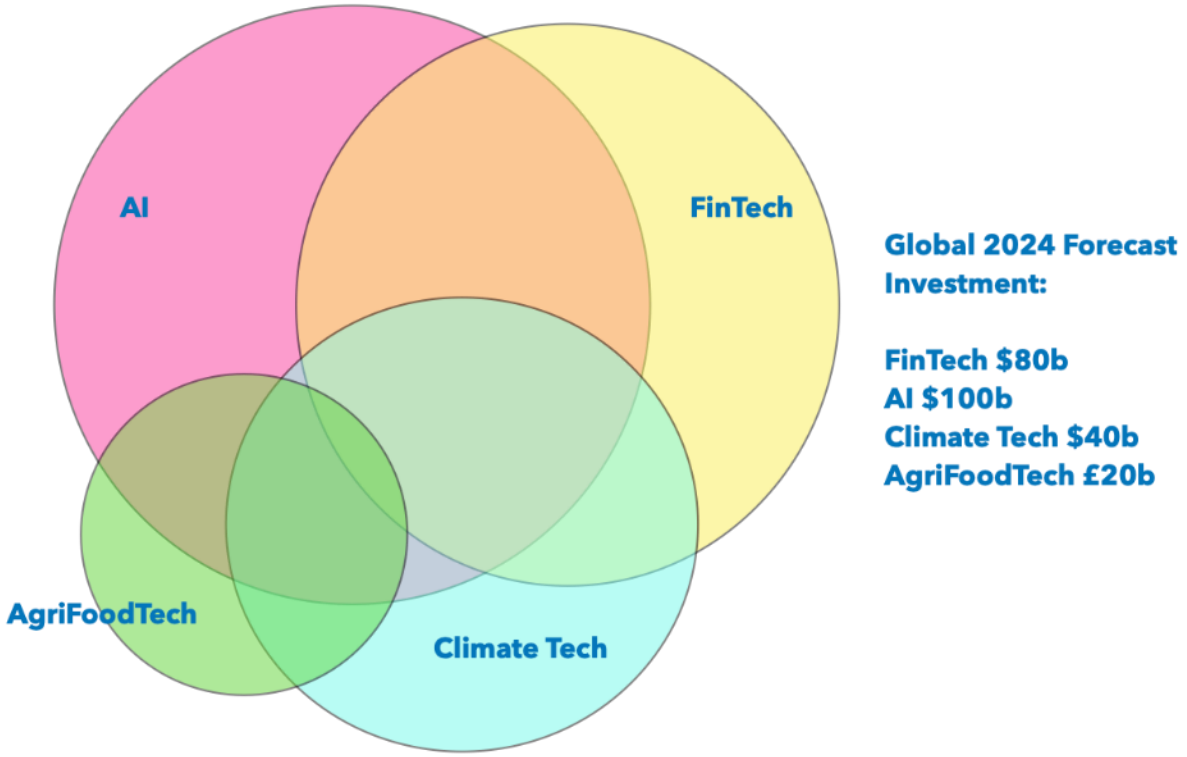
tech market. As governments and corporations align on ambitious sustainability goals, 2024's climate tech funding landscape is set to favour companies that offer scalable, impactful solutions ready for commercialisation.

How will these markets intersect with AgriFoodTech?

This diagram includes FinTech, along with AgriFoodTech, Climate Tech, and AI, with each circle's size reflecting its approximate investment market size forecast for 2024. The overlapping regions suggest potential intersections where these sectors may collaborate or share technologies, such as AI applications in AgriFoodTech or sustainable innovations in both Climate Tech and AgriFoodTech:

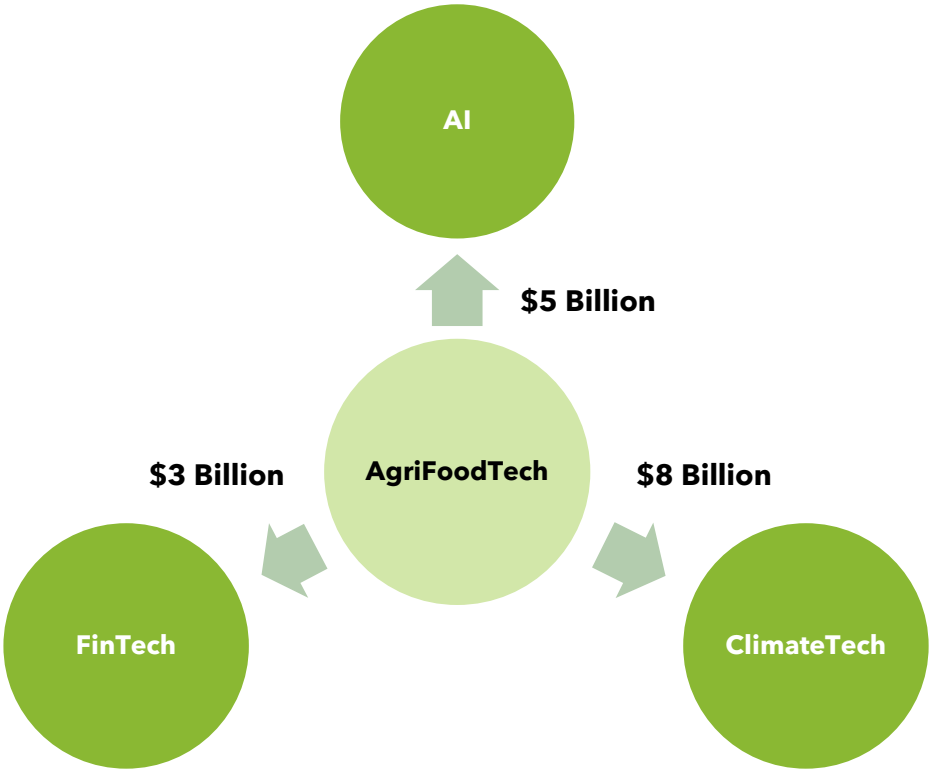
"AI and ClimateTech have significant impact in AgriFoodTech..."

Intersections between AgriFoodTech, FinTech, AI and Climate Tech in relative to their market size for investment projected for 2024:



Observations for this forecast highlight the accelerating impact of AI on all of these markets. AgriFoodTech is set to be highly influenced by AI. Climate Tech's intersection with AgriFoodTech is also forecast to be very significant.

Based on the estimated values for the intersections, here are the approximate overlaps:



All four sectors combined (AgriFoodTech, Climate Tech, AI, and FinTech): $1 billion

This is hypothetical, and these predictions are relatively modest compared to the total combined markets forecast for 2024 = $240b. However, if a new market emerges for these combined Tech sectors, then these are very meaningful numbers.

Digital AgriTech Industry Leaders

The following are examples of pioneering companies in charge of digital farming, leveraging advanced technologies such as data analytics, AI, IoT, and satellite imaging to optimise agricultural practices. These companies provide solutions that help farmers increase productivity, reduce costs, and manage resources more efficiently. Here are some of the prominent leaders in the digital farming space:

Company	Focus	Key Technologies	Notable Product
John Deere (Deere & Company)	Precision agriculture and farm machinery	John Deere's Precision Ag Solutions and JDLink use IoT, GPS, and advanced analytics to enable farmers to optimize field operations. Their autonomous tractors and AI-driven farm equipment are at	The **John Deere Operations Centre**, a cloud-based platform, enables farmers to collect and analyse field data for real-time decision-making.

		the forefront of digital farming.	
Climate Corporation (subsidiary of Bayer)	Farm data analytics and precision farming tools	Climate FieldView is their flagship platform, which collects and analyses farm data to help farmers make more informed decisions about planting, crop health, and harvests.	The **FieldView platform** integrates satellite imagery, weather data, and machine data to provide farmers with insights on soil health, pest pressure, and more.
Trimble	GPS technology, data management, and precision farming	Trimble's Ag Software Solutions and Field IQ systems allow for accurate planting, seeding, fertilising, and pest management. They provide farmers with tools to effectively manage land, labour, water, and nutrients.	**Trimble Ag Software**, a farm management solution, helps track crop health and weather conditions and optimise inputs based on field-level data.
Indigo Agriculture	Microbial seed treatments, digital farming, and carbon credit platforms	Indigo Carbon program helps farmers transition to regenerative agricultural practices, providing carbon credits and incentives for sustainable farming.	**Indigo Marketplace** is a digital platform where farmers can trade crops based on sustainable practices. Indigo also provides insights into crop health using satellite data.
Farmers Edge	Digital agriculture and precision farming	Farmers Edge offers a suite of digital tools, including FarmCommand, an AI-powered platform that integrates real-time data from fields, weather stations, and remote sensors to help optimise input use and farm operations.	**FarmCommand** gives predictive analytics and decision support, helping farmers lower input costs and improve yields through better data management.
Granular (owned by Corteva Agriscience)	Farm management software	Granular's farm management system offers real-time tracking of field activities, crop health, and financial performance. They also provide insights into resource allocation and input management.	**Granular Business and Granular Agronomy** help farmers plan and manage planting and harvesting, track field operations, and make financial projections.
CNH Industrial (Case IH & New Holland Agriculture)	Smart farm machinery and digital solutions	CNH Industrial has embraced digital agriculture through its **Case IH AFS Connect and New Holland PLM Connect,	**Case IH's AFS Connect** links data from the field to the farm office, allowing farmers to monitor and control their farm

		which provide telematics, remote monitoring, and precision farming solutions.	machinery remotely in real time.
Ag Leader Technology	Precision farming and data management tools	Ag Leader's InCommand displays and AgFiniti cloud-based platform give farmers insights into planting, fertilising, and harvest operations, enabling precision farming from the field to the office.	**AgFiniti** connects machinery, field data, and users in real-time, offering data visualization for smarter decision-making.
Raven Industries (acquired by CNH Industrial)	Autonomous farming solutions and precision agriculture	Raven's autonomous vehicles and AI-driven technologies are geared toward automating field operations like spraying and planting.	**Raven's Viper 4+ and Slingshot** platforms offer field navigation, real-time data analytics, and autonomous spraying solutions, reducing input waste and increasing efficiency
Taranis	Aerial imagery and precision farming	Taranis provides high-resolution aerial imagery and AI-driven insights for crop health, allowing farmers to detect issues early, such as pest infestations or nutrient deficiencies.	**Taranis's crop intelligence platform** processes drone and satellite images, helping farmers quickly identify and address field issues.
Prospera (subsidiary of Valmont)	AI-driven farm monitoring and automation	Prospera leverages AI and computer vision to monitor crop health, irrigation, and other key factors, optimising farm efficiency and yields.	**Prospera's platform** integrates with irrigation systems to automate and optimise water usage based on real-time crop needs.
Farmobile	Farm data collection and sharing	Farmobile specializes in capturing, processing, and monetizing farm data. Its PUC (passive uplink connection) device collects agronomic data from machinery, which can then be analysed or shared with agronomists and other stakeholders.	The **Farmobile DataStore** platform allows farmers to share and sell their farm data, enabling them to gain value from insights and partnerships.
CropX	Soil sensing and irrigation optimisation	CropX's sensors and AI analytics help farmers improve water usage, ensuring crops get the right amount of water based on real-time data.	**CropX's IoT platform** provides real-time soil monitoring, optimising irrigation and nutrient application to enhance yields and conserve resources.

Future Outlook – Investment Conclusions

Despite funding challenges and potential capital loss, the AgriTech industry's long-term prospects remain positive.

When considering the recent funding decline within a broader historical context. Over the past decade, AgriTech investment has remained strong, even amid ongoing difficulties. Funding data also indicates early signs of stabilisation following the peak caused by the COVID-19 pandemic in 2021. For instance, the $4.6 billion invested in AgriTech startups between the first and third quarters of 2023 slightly surpasses the $4.4 billion invested during the same period in 2020. This suggests that investment in AgriTech startups has not entirely dried up. While overall funding is lower than in 2021, startups with growth potential continue to attract investors.

"Factors driving AgriTech's long term growth: Digital transformation, advanced technology and geopolitical initiatives..."

Despite current macroeconomic headwinds, several factors drive the sector's long-term growth. Agriculture benefits from digital transformation and integrates advanced technologies such as robotics, biotechnology, and generative AI. Potential users are eager to adopt these innovations, particularly as they become more cost-effective. Furthermore, food security is a critical geopolitical issue, and with agriculture responsible for over a quarter of global emissions, sustainability remains a significant challenge. Upstream, larger farms increasingly plan to implement sustainable, digital, and precision AgriTech solutions.

Given these long-term growth factors, now is the time to buy. Incumbents and investors now have a window to act to optimise value and provide financial or operational support to start-ups that face funding challenges. At the same time, their capital still retains high potential for the future. Doing so proactively, while the IPs are still fresh and top talent is still around, investors retain and solidify the long-term value of these start-ups.

Investors, especially those focused on clean technology, still have significant capital to allocate. Private equity (PE) investments in climate tech doubled, reaching $3 billion between 2021 and 2022, while venture capital (VC) investments grew by 10%, totalling $10 billion over the same period. Additionally, the investor base is broadening. In recent years, we have seen an influx of non-VC investors, such as growth equity and infrastructure players, into the climate tech space, which shares some overlap with the agrifood sector.

Here are four potential strategies that balance risk and return while addressing challenges at these start-ups:

01

Enforcing Operational Discipline

The abrupt shift in funding availability has been a wake-up call for start-ups. As they adjust their strategies, traditional PE investors can seize this moment to foster a stronger focus on operational discipline, ideally linked to specific performance milestones like unit economics or expanded market reach.

02

Distressed Investments

Many start-ups, particularly those in digital and precision agriculture, have innovative products but face monetisation challenges due to user behaviour or complexities in the value chain. Some companies run out of resources, but with slight adjustments to their offerings and business models, there may be opportunities for quick wins.

03

Roll Up Strategies

Numerous AgriTech start-ups face competitiveness issues—either their products don't perform well enough or are too costly, leading to weak market adoption. In sectors like alternative protein, where challenges such as taste, price, and commercialisation (branding and distribution) must be tackled simultaneously, acquiring several companies that have solved one or two issues can create a stronger combined entity.

04

Strategic Partnerships

Rising interest rates and increased capital costs have posed difficulties for business models with long development cycles, such as those in sustainable inputs and biomaterials. Strategic partners can extend the financial runway and mitigate investment risks by offering financial support and securing off-take agreements.

Thank You

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